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(54) **Vehicle coverings**

(57) A method of sheeting a vehicle comprising storing a sheet to be applied to the vehicle in a store, attaching a free end of the sheet to the vehicle and moving the vehicle or the store relative one to the other so that the sheet emerges from the store and overlies a desired portion of the vehicle and securing the sheet to the vehicle. Apparatus for carrying out the method is also disclosed.

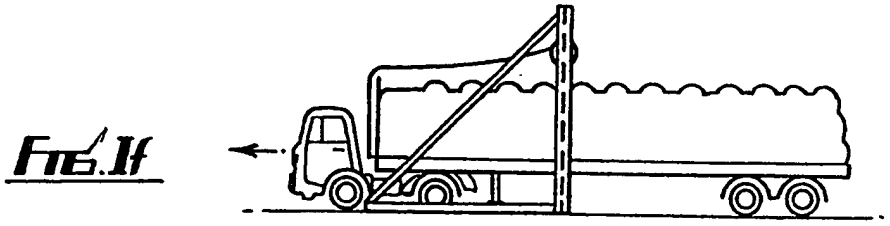

FIG.1f

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The drawings originally filed were informal and the print here reproduced is taken from a later filed formal copy.

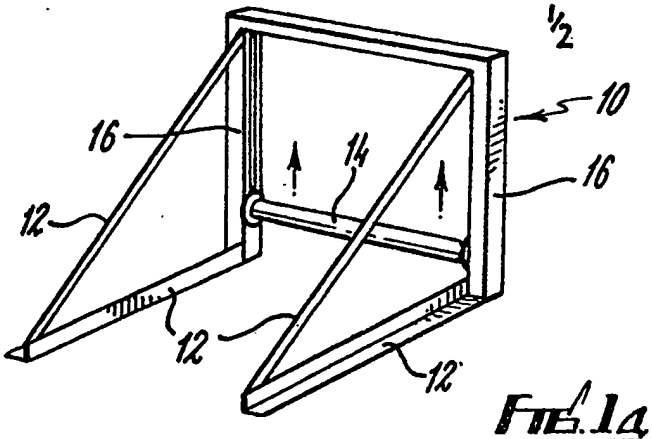


FIG.1a

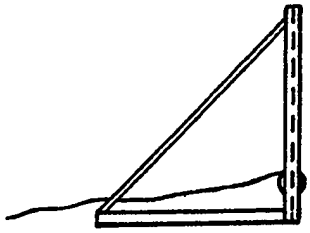


FIG.1b

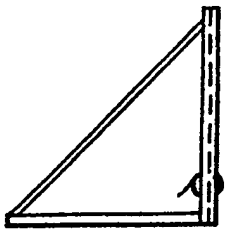


FIG.1c

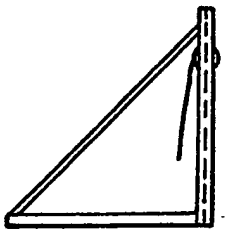


FIG.1d

FIG.1e

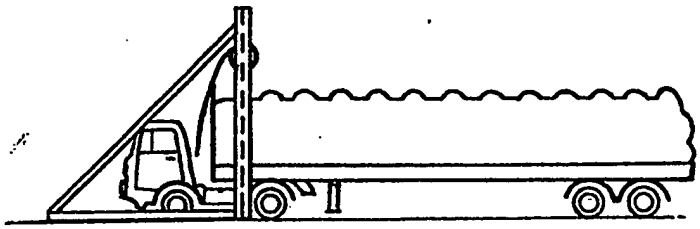
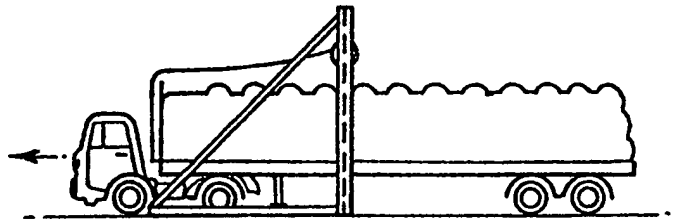


FIG.1f



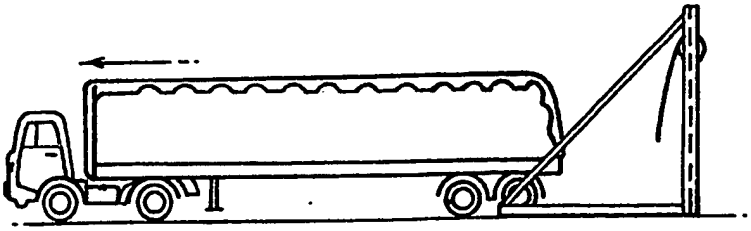
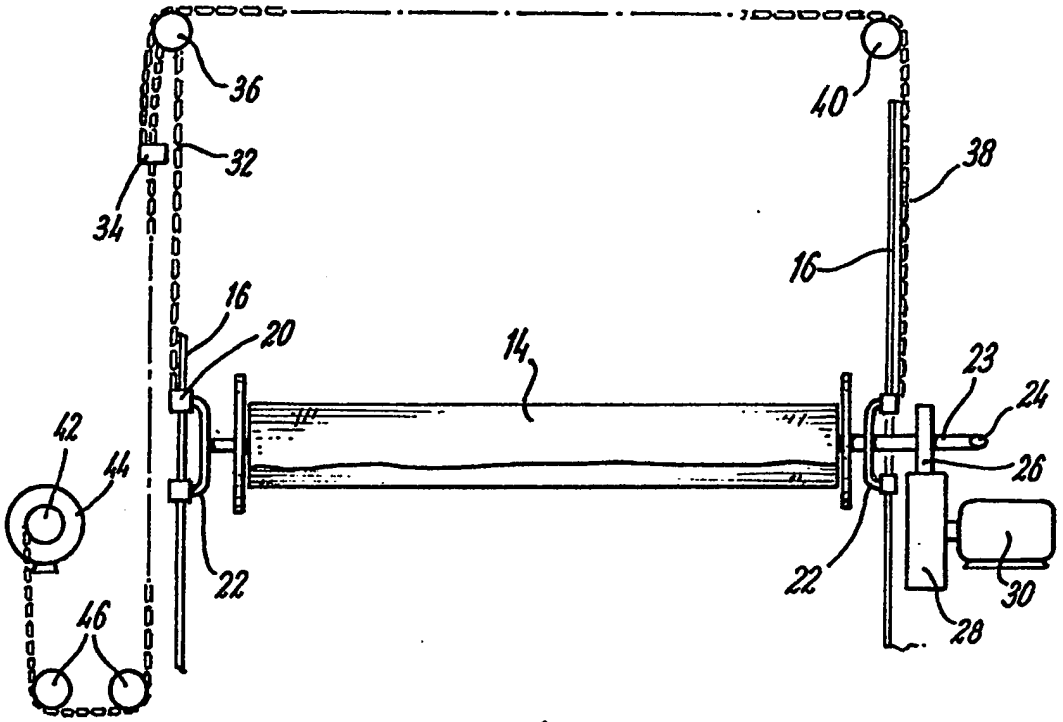


FIG.1g



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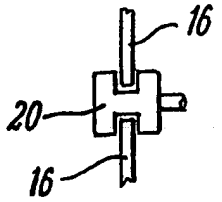

Фиг.2б

SPECIFICATION

Vehicle sheeting method and apparatus

The invention relates to the covering of portions of vehicles with tarpaulins and the like, primarily to protect, retain or support loads thereon.

It is known to cover the load of a vehicle (sheeting a vehicle) such as a truck with a sheet of durable material such as plastic, canvas, tarpaulin etc. in order to ensure that the load does not fall from the truck or to protect the load from weather or atmospheric conditions. This has hitherto been done manually, requiring, in the case of a large truck several persons to minimise idle time for the truck. The covers involved are often bulky and heavy so that persons using such covers risk physical injury in manhandling such covers. Also it is often necessary for a person to climb on to the top of a truck in order to spread out the cover, giving rise to a danger of falling.

The object of the present invention is to mitigate or obviate these disadvantages.

The invention provides in one of its aspects a method of sheeting a vehicle comprising storing a sheet to be applied to the vehicle in a store, attaching a free end of the sheet to the vehicle and moving the vehicle or the store relative one to the other so that the sheet emerges from the store and overlies a desired portion of the vehicle and securing the sheet to the vehicle. Preferably the store is a roll onto which the sheet is wound.

Preferably the axis of the roll is held stationary and the vehicle is moved relative thereto. The roll is preferably held with its axis normal to the direction of motion of the vehicle relative to the roll and above the vehicle.

The invention provides in another of its aspects apparatus for sheeting a vehicle comprising a roll for receiving a sheet rollable thereon, support means upon which the roll is rotatably mounted and winding means by which at least one sheet may be rolled upon the roll the apparatus being arranged such that axis of rotation of the roll, or a vehicle can move one relative to the other so that when a free end of the sheet is attached to the vehicle the or each sheet unwinds from off the roll and overlies a desired part of the vehicle and may be subsequently secured thereto.

Preferably the apparatus also includes hoist means by which the roll together with a sheet rolled thereon may be lifted to a point above the vehicle so that in unwinding the sheet either the vehicle may pass beneath the roll or the roll may pass over the vehicle.

The support means preferably comprises a gantry beneath which a vehicle may pass. The hoist means is preferably a motor operable to drive one or more chains attached to a pair of end supports which rotatably receive respective ends of the roll, said end supports being movable vertically by said chains in respective tracks provided in vertical members of the said gantry.

The gantry is preferably stationary and fixed to the ground.

Desirably the winding means comprises a motor operable to rotate the roll when the roll is in the lower position, the motor rotating the roll through the agency of a clutch arrangement which is engaged when the roll is in the lower position. Desirably there is also supplied a shaft having a squared end to accept a handle by means of which the shaft may be rotated to rotate the roll directly or through the agency of gearing. A friction brake is preferably provided to operate on the roll when it is not engaged by the motor, said brake preventing the sheets unrolling and providing slight tension to the sheet as it is applied to the vehicle.

The roll is preferably provided with end flanges to prevent the or each sheet fouling the movement of the said end supports within the said tracks. Studs are preferably provided on the roll to prevent the or each sheet slipping relative to the roll whilst being wound.

An embodiment of the invention will now be described by way of example only and with reference to the accompanying drawings in which:—

Figs. 1a—1g are schematic views of apparatus according to the invention showing operation thereof,

Fig. 2a is a more detailed view of parts of the apparatus shown in Figs. 1a—1g, and

Fig. 2b is a plan view of part of the apparatus shown in Fig. 2a.

The apparatus is shown generally in the isometric view Fig. 1a, and comprises a fixed gantry shown generally as 10 with support members 12, a roll 14 mounted between vertical members 16 of the gantry. The roll is capable of being raised up the vertical members 16 as indicated by the arrows, and is rotatable to receive and deliver one or more sheets for covering the load of one or more vehicles.

Figs. 1b to 1g show successive stages during the operation of the apparatus and the method of its operation. A sheet is first wound on to the roll which is provided with studs to prevent the sheet slipping off the roll, as shown in Figs. 1b and 1c. A number of sheets are preferably wound on to the roll in succession each sheet being tied to a previous one until the roll is full.

The full roll is then hoisted to the top of the gantry as shown in Fig. 1d by a motor driven hoist operating on chain in a manner to be described later. A vehicle, in the present case an articulated truck is driven beneath the gantry as shown in Fig. 1e and a free end of the uppermost sheet is attached to the trailer in known manner.

The truck is driven slowly forward as shown in Fig. 1f so unwinding sheet from the roll, until a load on the trailer is covered as desired. An end of a sheet nearest to the length of sheet required to cover the load as desired is disconnected from the roll and the free sheet is secured to the trailer as shown in Fig. 1g. In the event that a free end of a sheet does not coincide with a length of sheet required to cover the load as desired then a shorter length may be used the load being partially uncovered or a longer length may be used, the

excess being secured in known manner. The apparatus is then ready to receive another truck.

Fig. 2a shows working parts of the apparatus. Inward facing walls of vertical members 16 are slotted and slidably received in respective slots are guide members 20 of H-shaped plan (see Fig. 2b). Two guide members 20 support the roll 14 at each side by means of brackets 22, and the roll is rotatably mounted on these brackets in known manner. The roll 14 is provided with an extended shaft 23 having a squared end 24 for manual rotation by a suitable handle. The shaft 23 is also provided with a friction wheel 26 which when the roll is in a lowered position as shown in Fig. 2a engages a similar wheel 28 powered by a motor 30. The motor 30 thus rotates the roll 14 when energised, to wind a sheet on to the roll 14. A chain 32 links a block 34 to one of the guide members 20 and passes over a pulley 36 at the top of the gantry. A chain 38 links the block 34 with a respective guide member 20 at an opposite end of the roll 14 passing over pulley 36 and a further pulley 40. The block 34 is linked to a hoist drum 42 drivable by a motor 44 through a gearbox (not shown) via pulleys 46. Actuation of the motor causes the roll to be raised or lowered dependent upon the setting of the gearbox. Cut out means of known type (not shown) operate either to deactivate the motor 44 or disengage its drive to the hoist drum 42 when the roll reaches a fully raised or fully lowered position. A friction brake-band (not shown) operates on the roll when the motor 30 is disengaged to prevent the roll emptying itself of sheets and provide a slight tension to the sheets as they are applied to a vehicle.

It is to be understood that whilst a roll has been described for holding the or each sheet, any means whereby the sheet may be conveniently stored may be used and wherein a slight tension is applied to the sheet on application to the vehicle. For instance by nip rollers, may be stored in a concertina-folded manner and discharged nip rollers.

Whilst endeavouring in the foregoing specification to draw attention to those features of the invention believed to be of particular importance it should be understood that the applicant claims protection in respect of any patentable feature or combination of features hereinbefore referred to whether or not particular emphasis has been placed thereon.

CLAIMS

1. A method of sheeting a vehicle comprising storing a sheet to be applied to the vehicle in a store, attaching a free end of the sheet to the vehicle and moving the vehicle or the store relative one to the other so that the sheet emerges from the store and overlies a desired portion of the vehicle and securing the sheet to the vehicle.

2. A method of sheeting a vehicle as claimed in claim 1 in which the store is a roll on to which the sheet is wound.

3. A method of sheeting a vehicle as claimed in claim 2 in which the axis of the roll is held stationary and the vehicle is moved relative thereto.

4. A method of sheeting a vehicle as claimed in claim 3 in which the roll is held with its axis normal to the direction of motion of the vehicle relative to the roll and above the vehicle.

5. Apparatus for sheeting a vehicle comprising a roll for receiving a sheet rollable thereon, support means upon which the roll is rotatably mounted and winding means by which at least one sheet may be rolled upon the roll, the apparatus being arranged such that axis of rotation of the roll, or a vehicle, can move one relative to the other so that when a free end of the sheet is attached to the vehicle the or each sheet unwinds from off the roll and overlies a desired part of the vehicle and may be subsequently secured thereto.

6. Apparatus for sheeting a vehicle as claimed in claim 5 including hoist means by which the roll, together with a sheet rolled thereon, may be lifted to a point above the vehicle so that in unwinding the sheet the vehicle may pass beneath the roll.

7. Apparatus for sheeting a vehicle as claimed in claim 6 including hoist means by which the roll together with a sheet rolled thereon may be lifted to a point above the vehicle so that in unwinding the sheet the roll may pass over the vehicle.

8. Apparatus for sheeting a vehicle as claimed in claim 5 or claim 6 in which the support means preferably comprises a gantry beneath which a vehicle may pass.

9. Apparatus for sheeting a vehicle as claimed in any of claims 6 to 8 in which the hoist means is preferably a motor operable to drive one or more chains attached to a pair of end supports which rotatably receive respective ends of the roll, said end supports being movable vertically by said chains in respective tracks provided in vertical members of the said gantry.

10. Apparatus for sheeting a vehicle as claimed in claim 9 in which the gantry is preferably stationary and fixed to the ground.

11. Apparatus for sheeting a vehicle as claimed in any of claims 6 to 10 in which the winding means comprises a motor operable to rotate the roll when the roll is in the lower position, the motor rotating the roll through the agency of a clutch arrangement which is engaged when the roll is in the lower position.

12. Apparatus for sheeting a vehicle as claimed in any of claims 6 to 11 in which there is also supplied a shaft having a squared end to accept a handle by means of which the shaft may be rotated to rotate the roll directly or through the agency of gearing.

13. Apparatus for sheeting a vehicle as claimed in claim 11 or 12 in which a friction brake is preferably provided to operate on the roll when it is not engaged by the motor, said brake preventing sheets unrolling and providing slight tension to the sheet as it is applied to the vehicle.

14. Apparatus for sheeting a vehicle as claimed in any of claims 9 to 13 in which the roll is

preferably provided with end flanges to prevent the or each sheet fouling the movement of the said end supports within the said tracks.

15. Apparatus for sheeting a vehicle as claimed in any of claims 6 to 14 in which studs are preferably provided on the roll to prevent the or each sheet slipping relative to the roll whilst being wound.

16. Apparatus for sheeting a vehicle substantially as hereinbefore described with reference to the accompanying drawings.

17. A method of sheeting a vehicle substantially as hereinbefore described with reference to the accompanying drawings.

18. Any novel subject matter or combination including novel subject matter herein disclosed, whether or not within the scope of or relating to the same invention as any of the preceding claims.

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